Quarterly Progress Report
April 1 – June 30, 2006
BOR Agreement 1425-05-FG-10-1188

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Bureau of Reclamation implemented Ecologically Based System Operations (EBSM) on the South Fork Snake River during winter 2003-2004. IDFG began biological monitoring of Yellowstone cutthroat trout during the same time period. This quarterly progress report summarizes activities conducted during the second quarter of 2006, which is the third quarter of this grant agreement.

Fish weirs were operated in three major spawning tributaries this spring, and rotary-drum fish screens were operated in two spawning tributaries. The Palisades and Burns creek screens will continue to be operated through the fall. Weirs have been operated in Palisades, Rainey, Pine, and Burns creeks since 2001 to separate spawning cutthroat trout – which are allowed to pass – from spawning rainbow trout – which are removed. Ideally, this will provide genetic preserves for a large portion of the South Fork cutthroat trout population by excluding rainbow trout. As expected, the 2006 season was the most challenging to date because of extended high runoff, heavy debris loads, and major bedload movement. Fortunately, the concrete infrastructure at each weir remained intact, but there will need to be significant repairs – especially to the floating weir panels. Several of these Mitsubishi panels at Pine Creek blew out shortly after installation on April 14 and could not be replaced, so the weir was shut down. Mitsubishi panels were also used at Palisades and Burns creeks and, although they sustained heavy damage, they were patched together and operated through June 30. The Palisades Creek weir was installed April 5 and the Burns Creek weir was installed April 14. Unfortunately, the Palisades Creek weir efficiency estimate – calculated using marked cutthroat trout caught at the Palisades Canal screen bypass trap – was 11%, which means 89% of the fish run was missed. I did not estimate weir efficiency at Burns Creek but believe it was less than 50%, similar to 2003. I installed a "hard" picket weir at Rainey Creek on April 5 and it sustained some washout damage around the end walls. I did not estimate efficiency here either but believe it was greater than 90%. Pickets were pulled and the weir was shut down April 30 to May 26 (almost a month) due to high runoff. In the table below are preliminary fish counts at each weir. For the screen bypass trap, fish over 249 mm are considered post-spawners returning down Palisades Creek. We will continue running the bypass trap through the end of July.

Last:	# Rainbow	# Cutthroat	To 6/30/06:	# Rainbow	# Cutthroat
6/30/05	301	1,071	Palisades Weir	52	340
7/15/03	32	86	Pal Bypass (>249 mm)*	17	104
6/30/03	1	1,350	Burns Weir	3	1,539
6/30/05	0	25	Rainey Weir	3	69

* Through 7/15/06.

Radio telemetry transmitters were not planted in rainbow trout redds to evaluate this year's freshet. I did observe that rainbow trout were generally not spawning in the same locations as the last two years. This was probably due to higher flows earlier in the season (reservoir drawdown for flood control). The freshet peaked on June 16 at 19,500 cfs, which gave a max/min ratio of 24:1 based on 800 cfs early winter flow.

Rainbow trout exploitation (the estimated percentage of the population that was harvested) increased from 12% in 2003 to 21% in 2005. While encouraging, these rates need to approach 60% or more before recruitment overfishing will occur and effective control is realized. In conjunction with another IDFG research project, 321 rainbow trout were tagged, some with reward tags, on April 25-26 in the upper river. Exploitation will be calculated using the number of tags that are returned. I recorded other species during electrofishing, and extrapolated pre-season stock abundance will also be compared to 2003 and 2005.